

2007 Large¹ Commercial Passenger Vessels Discharge Status and Wastewater Treatment

	Vessel Operator	Vessel Name	Passenger Capacity (actual)	Crew Capacity	Total Persons on Board ²	Blackwater (BW) Treatment System Manufacturer	Graywater (GW) Treatment System Manufacturer	Discharging in Alaska ³ & Subject to sampling program		Type of Treatment System
								BW	GW	
1	Carnival Cruise Lines	<i>Carnival Spirit</i>	2125	934	3059	Triton/Rochem	Rochem UF	No	No	Rochem is a reverse osmosis ultrafiltration system.
2	Celebrity Cruises	<i>Infinity</i>	1950	930	2880	Zenon	Mixed with BW	No	No	Zenon is a biological reactor and ultrafiltration system.
3	Celebrity Cruises	<i>Mercury</i>	1870	909	2779	Biopure/Rochem	Mixed with BW	No	No	Rochem is a reverse osmosis ultrafiltration system.
4	Celebrity Cruises	<i>Summit</i>	2449	960	3409	Hamann/Lazarus	None	No	No	Hamann/Lazarus is dilution and filtration system
5	Holland America	<i>Amsterdam</i>	1380	647	2027	Unknown	Unknown	No	No	
6	Holland America	<i>Noordam</i>	1918	800	2718	Rochem Bio-filtration	Rochem LPRO	Yes	Yes	Rochem is a reverse osmosis ultrafiltration system.
7	Holland America	<i>Oosterdam</i>	1848	800	2648	Rochem Bio-filtration	Rochem LPRO	No	No	Rochem is a reverse osmosis ultrafiltration system.
8	Holland America	<i>Ryndam</i>	1266	602	1868	Zenon	Mixed with BW	Yes	Yes	Zenon is a biological reactor and ultrafiltration system.
9	Holland America	<i>Statendam</i>	1266	588	1854	Zenon	Mixed with BW	Yes	Yes	Zenon is a biological reactor and ultrafiltration system.
10	Holland America	<i>Volendam</i>	1432	647	2079	Zenon	Mixed with BW	Yes	Yes	Zenon is a biological reactor and ultrafiltration system.
11	Holland America	<i>Zaandam</i>	1460	647	2107	Zenon	Mixed with BW	Yes	Yes	Zenon is a biological reactor and ultrafiltration system.
12	Holland America	<i>Zuiderdam</i>	1848	800	2648	Rochem Bio-filtration	Rochem LPRO	No	No	Rochem is a reverse osmosis ultrafiltration system.
13	Kyma Ship Management	<i>Topaz</i>	1386	Unknown	1386 + crew	Unknown	Unknown	No	No	
14	Japan Cruise Line Inc	<i>Pacific Venus</i>	680	Unknown	680 + crew	Unknown	Unknown	No	No	
15	NYK Cruises Co Ltd	<i>Asuka II</i>	840	Unknown	840 + crew	Unknown	Unknown	No	No	
16	Norwegian Cruise Lines	<i>Norwegian Pearl</i>	3130	1100	4230	Scanship	Mixed with BW	Yes	Yes	Scanship is a biological reactor and ultrafiltration system.
17	Norwegian Cruise Lines	<i>Norwegian Star</i>	2900	1100	4000	Scanship	Mixed with BW	Yes	Yes	Scanship is a biological reactor and ultrafiltration system.
18	Norwegian Cruise Lines	<i>Norwegian Sun</i>	2450	950	3400	Scanship	Mixed with BW	Yes	Yes	Scanship is a biological reactor and ultrafiltration system.
19	Princess Cruise Line	<i>Coral Princess</i>	2400	900	2800	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
20	Princess Cruise Line	<i>Dawn Princess</i>	1950	900	2850	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
21	Princess Cruise Line	<i>Diamond Princess</i>	2670	1238	3908	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
22	Princess Cruise Line	<i>Golden Princess</i>	2600	1060	3660	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
23	Princess Cruise Line	<i>Island Princess</i>	2400	900	3300	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
24	Princess Cruise Line	<i>Pacific Princess</i>	777	373	1150	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
25	Princess Cruise Line	<i>Sapphire Princess</i>	2670	1238	3908	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
26	Princess Cruise Line	<i>Sun Princess</i>	1950	870	2820	Hamworthy Bioreactor	Accomodations mixed with BW	Yes	Accomodations Only	Hamworthy is a biological reactor and ultrafiltration system.
27	Radisson Seven Seas	<i>Seven Seas Mariner</i>	769	431	1200	Hamworthy Bioreactor	Mixed with BW	Yes	Yes	Hamworthy is a biological reactor and ultrafiltration system.
28	Royal Caribbean Cruises Ltd.	<i>Radiance of the Seas</i>	2501	859	3360	Hamman	None	No	Yes	Hamann/Lazarus is dilution and filtration system
29	Royal Caribbean Cruises Ltd.	<i>Serenade of the Seas</i>	2100	850	2950	Scanship	Mixed with BW	No	No	Scanship is a biological reactor and ultrafiltration system.
30	Royal Caribbean Cruises Ltd.	<i>Vision of the Seas</i>	2400	800	3200	Hydroxyl	Unknown	No	No	Hydroxyl is an activated oxidation process.

¹A large vessel has overnight accommodations for 250 or more passengers.

²Capacity is calculated from Registration, Vessel Specific Sampling Plan, or Juneau Cruiseship Schedule. Actual number of passenger aboard varies dependent upon sales.

³ Alaska water extends 3 miles from the coastline and includes the Alexander Archipelago. Only vessels that discharge into Alaska waters are required to meet wastewater sampling and reporting requirements. Some vessels that obtained continuous discharge approval decided not to discharge in AK water for the 2007 cruise season, but did provide samples.

Seven Seas Mariner discharged only while underway (6 knots / 1 nautical mile nearest shore)

The wastewater systems on these vessels meet stringent effluent limits and are approved by the U.S. Coast Guard to discharge continuously.

These vessels are not discharging in Alaska waters during the 2007 season [registered].